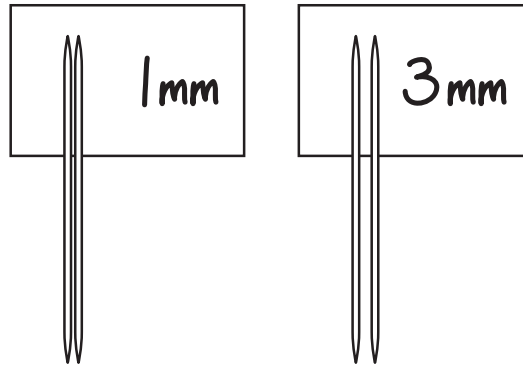




Skin test



- (1) Glue two tooth picks to a card. Make the tips 1mm apart.
- (2) Make cards with tooth picks 3, 5 and 10mm apart. Let the glue dry and write the distance between the tooth pick tips on the card.
- (3) The person to be tested should close their eyes. The person testing should select one card and also a single tooth pick and test the five areas in the chart below. The card with two toothpicks, and the single tooth pick, should be presented alternately at each area of skin. Only lightly touch the skin with the toothpicks, do not push them into the skin.
- (4) The person should be asked if they feel one or two points. Put a tick in the table if two points are detected and a cross if only one point is detected.
- (5) Fill the answers in the table as you go along, then repeat the test with the other cards and the single tooth pick until the table is full.

	Distance (mm)			
Skin region	1	3	5	10
Fingertip				
Palm				
Back of hand				
Forearm				
Back of neck				

- (6) Describe your results.



.....

.....

.....



Equipment

Each class group will need toothpicks, glue and card.

the answer suggesting that the most sensitive area of skin comes in to contact with all kinds of objects we use in our daily lives, and information about textures (and temperatures) is useful.

Introducing the work

The members of the class may think that all areas of the skin are equally sensitive. Five areas of skin which are normally exposed are the fingertip, palm, back of hand, forearm and neck. The class may be invited to touch or gently scratch each in turn as a preliminary test on the sensitivity of the skin. This may not yield conclusive results, due to the difference in degree and strength of scratching, and can lead to a discussion of the need for a standardised test.

Suggest, or draw from the class, the idea that the skin could be tested with two pointed instruments which are not too sharp, such as tooth picks. Suggest that pairs of tooth picks may be set at different distances apart for the test and that the most sensitive skin will detect the tooth picks that are closest as two points, while the least sensitive skin will detect them as one point.

Some class members may suggest that the experiment will not work because the person being tested could say “two” all the time. To avoid this temptation a single tooth pick can be presented, either before or after the toothpicks on the card, but only the result of the two toothpicks is recorded in the table.

Outcomes

The children:

- Can fill in a table.
- Can control risks in the performance of an activity.
- Can provide a written account of the results of an investigation.

Background

It should be found that the fingertip is the most sensitive and the neck is the least sensitive.

The outer layer of the skin is composed of dead cells which are continually being lost. Beneath this is a layer of cells which produce new outer skin cells. These two layers form the epidermis layer of the skin. Beneath the epidermis is the dermis layer which contains hair follicles, sweat glands and receptors which are sensitive to touch, pressure, heat and cold. The receptors are not evenly distributed over the skin but are concentrated in the regions which come into most contact with a wide variety of objects – the hands.

Extending the work

You could ask the class why there is a difference and look for